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**Claims**

1. An improved thiosulphate leach process, the process characterised by the method steps of submitting a gold-bearing material to a leach in a thiosulphate solution, wherein thiourea or a reagent chemically related thereto, and at least one oxidant, are present in the thiosulphate leach solution, and subsequently recovering gold from the resulting pregnant leach solution.
2. A process according to claim 1, wherein thiourea is provided in a concentration of about 0.01 mole/L.
- 10 3. A process according to claim 1 or 2, wherein the oxidant present is a complex of ethylenediaminetetraacetate (EDTA) with a multivalent metal.
4. A process according to claim 3, wherein the multivalent metal is iron and the complex FeEDTA.
- 15 5. A process according to any one of the proceeding claims, wherein thiosulphate is added in the form of a soluble salt.
6. A process according to claim 5, wherein the soluble salt is the sodium salt of thiosulphate.
7. A process according to any one of the preceding claims, wherein thiosulphate is provided in a concentration of about 0.1 to 0.3 mole/L.
- 20 8. A process according to any one of claims 4 to 8, wherein the oxidant FeEDTA is prepared prior to addition to the leach solution.
9. A process according to any one of claims 4 to 8, wherein the oxidant FeEDTA is prepared by adding suitable amounts of iron salts and EDTA directly to the leach solution.

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10. A process according to any one of claims 4 to 9, wherein the concentration of FeEDTA in the leach solution is about 0.002 mole/L.
11. A process according to any one of the preceding claims, wherein the pH of the leach is preferably maintained between about 6 to 7.
- 5 12. A process according to any one of the preceding claims, wherein the reagent chemically related to thiourea is a thio-substituted organic compound.
13. A process according to claim 12, wherein the reagent chemically related to thiourea is one of formamidine disulphide or thiosemicarbazide.
- 10 14. An improved thiosulphate leach process for the recovery of gold from ores and other gold-bearing materials, characterised in that the leach solution comprises thiosulphate, thiourea or a reagent chemically related thereto, and an oxidant that does not oxidise thiosulphate, the process producing a pregnant leach solution from which gold may be recovered.
- 15 15. A process according to claim 14, wherein the oxidant present is a complex of ethylenediaminetetraacetate (EDTA) with a multivalent metal.
16. A process according to claim 15, wherein the multivalent metal is iron and the complex FeEDTA.
17. A process according to any one of claims 14 to 16, wherein the FeEDTA is provided at a concentration of about 0.002 mole/L.
- 20 18. A process according to any one of claims 14 to 17, wherein the thiosulphate is provided at a concentration of between about 0.1 to 0.3 mole/L.
19. A process according to any one of claims 14 to 17, wherein thiourea is provided at a concentration of about 0.01 mole/L.

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20. A process according to any one of claims 14 to 18, wherein gold is recovered from the pregnant leach solution by way of either cementation or ion exchange.
21. A process according to any one of claims 14 to 19, wherein the pH of the leach is preferably maintained between about 6 to 7.  
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22. A process according to any one claims 12 to 21, wherein the reagent chemically related to thiourea is a thio-substituted organic compound.
23. A process according to claim 22, wherein the reagent chemically related to thiourea is one of formamidine disulphide or thiosemicarbazide.
- 10 24. An improved thiosulphate leach process substantially as hereinbefore described with reference to Examples 2 to 6.